



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/054,554

01/18/2002

Mike Ming Yu Chen

SJO920000203US1

7317

7590

05/20/2004

Ron Feece
INTERNATIONAL BUSINESS MACHINES CORPORATION
Dept. L2PA
5600 Cottle Road
San Jose, CA 95193

EXAMINER

OLSON, JASON C

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 05/20/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,554

Applicant(s)

CHEN ET AL.

Examiner

Jason C Olson

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-20 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, 7, 9 and 21-26 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 8, 10- 11 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "126" has been used to designate both third insulation layer and pole piece layer. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Hossain et al. (U.S. 6,296,955).

Regarding claim 1, Hossain et al. teaches an MR and inductive transducer including a write gap layer (item 52, figure 5) between a first NiFe (Nickel-Iron) alloy write pole (item 50) and a second NiFe alloy write pole (item 60); the NiFe alloy is a body-centered cubic (BCC) and contains a percentage of iron (see col. 3, ln. 26-40; col. 4, ln. 39-col. 5, ln. 26; differences in concentration are not patentable because it is not inventive to discover the optimum or workable

Art Unit: 2651

ranges by routine experimentation, see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 CPA 1955)).

Regarding claim 6: claim 6 has limitations similar to those treated in the above rejection and is met by the references as discussed above. Claim 6 however also recites the following limitations as disclosed by Hossain et al. a magnetic sensor (item 46, figure 5) between a first read gap (item 44) and a second read gap (item 46), where the read gaps are sandwiched between a first shield layer (item 42) and a second shield layer (item 50) (see col. 4, ln. 39-col. 5, ln. 26).

Claim 21-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Dinan et al. (U.S. 6,724,571).

Regarding claims 21 and 24, Dinan et al. teaches the fabrication of a write head portion of a magnetic head upon a wafer (or substrate) by depositing a first seed layer of NiFe (nickel-iron) followed by electroplating with NiFe having a different magnetic property a first magnetic pole; thereafter a write gap layer is deposited over the first magnetic pole; a seed layer of NiFe is deposited over the write gap and the second magnetic pole is formed by electroplating NiFe having a different magnetic property over the seed layer with (see col. 3, ln. 66-col. 4, ln. 50; It is understood by an artisan in the art that the ferromagnetic material or NiFe have a saturation flux density and it is interpreted by the examiner through the cited text that the saturation flux densities of the electroplating layers is not greater than the saturation flux density of the seed layers).

Art Unit: 2651

Regarding claims 22, 23, and 25: differences in concentration are not patentable because it is not inventive to discover the optimum or workable ranges by routine experimentation, see *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 CPA 1955).

Regarding claim 26, Dinan et al. further teaches the process of fabricating wherein a magnetic metallic seed-layer is first deposited over the wafer surface by sputtering or evaporation (see col. 4, ln. 51-55).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hossain et al.

Regarding claims 2 and 7, Hossain et al. teaches a seed layer (item 64, figure 5) underlying an electroplated layer (item 66). (see col. 3, ln. 26-40 and col. 5, ln. 24-27; it is obvious to one of ordinary skill in the art that each layer has a saturation flux density and furthermore it appears in figure 5 and col. 5, ln. 41-54 that the electroplated layer has a saturation flux density no greater than the seed layer flux density.

Regarding claims 4 and 9, Hossain et al. further teaches a seed layer comprising the material NiFe (see col. 5, ln. 14-16).

Allowable Subject Matter

Claims 12-20 are allowed. The Examiner interprets independent claim 12 as a “means-plus-function” claim under 35 U.S.C §112, Paragraph 6. Claim(s) 12-20 are interpreted to cover the corresponding structure, material, or acts in the specification and equivalents thereof.

Claims 3, 5, 8, 10-11, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shi et al. (U.S. 6,221,218) is cited for forming an inductive write head for magnetic data storage media. Cohen (U.S. 6,195,232) is cited for thin film head with solenoid coil.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C Olson whose telephone number is 703.305.8325. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2651

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCO 

May 4, 2004


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600